

REMARKS

Claims 1, 4-6, 8-14, 16-19, 21-26, 29, and 31-33 are currently pending. Claims 1, 29, and 31 have been amended, leaving claims 4-6, 8-14, 16-19, 21-26, and 32-33 unchanged.

The Examiner rejected claims 1, 4-6, 8-10, 13, 16-19, 21, 22-26, 29, and 31-33 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,414,893 (Hampton) in view of U.S. Patent Publication No. 2002/0104185 (Weber).

Applicants have amended claim 1 to recite, among other things, an upper housing portion movable relative to the lower housing portion between a closed position for use and an open position in which airflow passages within the head are opened from above, wherein the head is provided with at least one catch to retain the upper housing portion in the closed position and releasable to move the upper housing portion into the open position, and a rotatably mounted tool element which is entirely exposed from above and in front of the tool element and readily removable when the upper housing portion is in the open position, wherein the tool element is driven by a drive mechanism comprising a drive belt having internal and external surfaces, wherein the drive belt does not pass around the tool element and the external surface directly engages the tool element, and wherein the tool element is readily removable in an upward direction through the open upper housing portion without disturbing the positioning of the drive mechanism.

Hampton does not teach or suggest each and every limitation of claim 1. Rather, Hampton discloses a vacuum cleaner with a removable brush 26. The brush 26 is driven by a motor 24 and a belt 76 that wraps around the brush 26. The Examiner acknowledges that Hampton fails to teach a drive belt that does not pass around the tool element.

Weber does not cure the deficiencies of Hampton. Weber discloses a suction nozzle that includes two agitators. With reference to Fig. 12, the agitators are rotated or driven by a motor, pulley, and belt arrangement. The belt 110 is held in position by the placement of the pulley 100, the idler gears 108, 112, and the agitators 114, 116. If any component were moved, the belt 110 would also move and would not be properly tensioned. Furthermore, the arrangement illustrated in Fig. 12 is such that the belt 110 blocks removal of the agitator 116 from the top as recited in claim 1. Thus, it is not possible to remove either agitator 114, 116 without disturbing the positioning of the drive mechanism.

The Examiner also refers to Fig. 11 of Weber. The Examiner alleges that Fig. 11 teaches a tool element driven by an external surface of a belt. Applicants respectfully disagree with the Examiner and submit that the second agitator 99 is not driven by the external surface of the belt. Rather, the first agitator 98 is driven by an internal surface of the belt 98 and rotation of the first agitator 98 drives the second agitator 99 through the meshing and cooperation of the first and second helical ribbons 96. *See paragraph 39.* Weber does not disclose an agitator that is driven through direct engagement with an external surface of the belt and that is readily removable in an upward direction through an open upper housing portion without disturbing the positioning of the belt. Rather, Weber discloses two agitators 96, 98. The first agitator 98 is driven by the internal surface of the belt 97 and cannot be removed without disturbing the positioning of the belt 97. The second agitator 99 does not contact any portion of the belt, much less the external surface of the belt.

In light of the foregoing, Hampton and Weber, alone or in combination, do not teach or suggest each and every limitation of claim 1. As such, claim 1 is allowable over Hampton and Weber. Claims 4-6, 8-14, 16-19, and 21-26 depend from claim 1 and are allowable over Hampton and Weber for these and other reasons.

Applicants have amended claim 29 to recite, among other things, an upper housing portion secured to the connector, wherein the lower housing portion provides support for a rotatably mounted brush bar, and the upper housing portion is pivotable relative to the lower housing portion between a closed position and an open position in which the brush bar is entirely exposed from above and in front when the upper housing portion is in the open position, wherein the brush bar is driven by a drive mechanism comprising a series of gears, wherein the brush bar is rotated without any component passing around the brush bar, and wherein the brush bar is removable from above and in front of the drive mechanism without disturbing the positioning of the drive mechanism.

Hampton does not teach or suggest each and every limitation of claim 29. As noted, Hampton discloses a vacuum cleaner with a removable brush 26 driven by a motor 24 and a belt 76 wrapped around the brush 26. Hampton says nothing of a brush bar driven by a drive mechanism comprising a series of gears, much less the other limitations of claim 29.

Weber does not cure the deficiencies of Hampton. With reference to Fig. 13 of Weber, a plurality of agitators 135 and 136 are driven by a worm gear 128 positioned above the

agitators 135, 136. The threaded portion of the worm gear 128 is engaged with threaded portions of the agitators 135, 136 such that rotation of the worm gear 128 causes rotation of the agitators 135, 136. Removal of the agitators 135, 136 from above and in front of the worm gear 128 would require one to move the worm gear 128 in order to move the threaded portion of the worm gear 128 out of engagement with the threaded portions of the agitators 135, 136. Thus, Weber does not teach or suggest, among other things, a brush bar that is removable from above and in front of the drive mechanism without disturbing the positioning of the drive mechanism.

In light of the foregoing, Hampton and Weber, alone or in combination, do not teach or suggest each and every limitation of claim 29. As such, claim 29 is allowable.

Applicants have amended claim 31 to recite, among other things, a drive mechanism that includes a drive belt comprising an internal and an external surface wherein the drive belt does not pass around the tool element, and the tool element is driven by the external surface of the drive belt, wherein the drive belt defines a loop and the brush bar is positioned outside of and adjacent to the loop such that the brush bar may be removed from above and in front of the drive belt without disturbing the positioning of the drive mechanism.

Hampton does not teach or suggest each and every limitation of claim 31. Rather, Hampton discloses a vacuum cleaner with a removable brush 26. The brush 26 is driven by a motor 24 and a belt 76 that wraps around the brush 26. The Examiner acknowledges that Hampton fails to teach an arrangement in which the drive belt does not pass around the tool element.

Weber does not cure the deficiencies of Hampton. As noted, Weber discloses a suction nozzle that includes two agitators 114, 116. With reference to Fig. 12, the agitators are rotated or driven by a motor, pulley, and belt arrangement. The first agitator 114 is positioned inside a loop defined by the drive belt 110, and the second agitator 116 is positioned outside the loop defined by the drive belt 110. However, the second agitator 116 cannot be removed from any direction, much less from in front of and above the drive belt without disturbing the positioning of the drive belt, which is part of the drive mechanism. Rather, when the second agitator 116 is removed, the drive belt 110 will relax and change position.

The Examiner also refers to the embodiment of Fig. 11 of Weber as teaching the limitations of claim 31. As noted with respect to claim 1, a first agitator 98 is driven by an internal surface of a belt 97, and a second agitator 99 is driven by rotation of the first agitator 98 through the cooperation of helical ribbons 96. The second agitator 99 makes no contact with the belt 97. Fig. 11 does not teach or suggest an agitator driven by an external surface of a belt, much less a tool element that is driven by the external surface of the drive belt, wherein the drive belt defines a loop and the brush bar is positioned outside of and adjacent to the loop such that the brush bar may be removed from above and in front of the drive belt without disturbing the positioning of the drive mechanism.

In light of the foregoing, Hampton and Weber, alone or in combination, do not teach or suggest each and every limitation of claim 31. As such, claim 31 is allowable. In addition, claims 32 and 33 depend from claim 31 and are allowable for these and other reasons.

The Examiner rejected claims 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over Hampton in view of Weber and further in view of U.S. Patent No. 3,924,085 (Stone).

Claims 11 and 12 depend from claim 1 and add additional limitations. As discussed, Hampton and Weber, alone or in combination, do not teach or suggest each and every limitation of claim 1, much less those of claims 11 or 12.

Stone does not cure the deficiencies of Hampton and Weber. The Examiner cited Stone for the teaching of a safety start device for domestic appliances wherein a switch is provided on part of the housing. The switch is operable to disconnect power to the components of the appliance to prevent operation when the door of the appliance is in an opened position. The Examiner does not allege, nor does Stone teach or suggest, a tool element, much less a tool element that is entirely exposed from above and in front and is readily removable without disturbing the positioning of the drive mechanism.

In light of the foregoing, Hampton, Weber, and Stone, alone or in combination, do not teach or suggest each and every limitation of claim 1. As such, claim 1 is allowable over Hampton, Weber, and Stone. In addition, claims 4-6, 8-14, 16-19, and 21-26 depend from claim 1 and are allowable over Hampton, Weber, and Stone for these and other reasons.

The Examiner rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Hampton in view of Weber and further in view of U.S. Patent Publication No. 2001/0008036 (Worwag).

Claim 14 depends from claim 1 and adds additional limitations. As discussed, Hampton and Weber, alone or in combination, do not teach or suggest each and every limitation of claim 1, much less those of claim 14.

Worwag does not cure the deficiencies of Hampton and Weber. Worwag discloses a vacuum cleaning tool that includes a brush roll 10 driven by an air turbine 12 and drive belt 16. The drive belt 16 is positioned such that it wraps around the brush roll 10. The brush roll 10 cannot be moved without also moving the drive belt 16.

In light of the foregoing, Hampton, Weber, and Worwag, alone or in combination, do not teach or suggest each and every limitation of claim 1. As such, claim 1 is allowable. In addition, claims 4-6, 8-14, 16-19, and 21-26 depend from claim 1 and are allowable for these and other reasons.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that claims 1, 4-6, 8-14, 16-19, 21-26, 29, and 31-33 are allowable.

The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



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